

CLAIMS

What is Claimed Is:

1. A method for dynamically measuring thermal drift of a head suspension in a hard disk drive, the method comprising the following steps:

writing a first data track;

determining a track center of the first data track;

5 writing a second data track;

determining a track center of the second data track; and

comparing the track center of the first data track to the track center of the second data track, a difference between the track center of the first data track and the track center of the second data track representing thermal drift of the head suspension.

2. The method of Claim 1 wherein the difference between the track center of the first data track and the track center of the second data track represents in-plane thermal drift of the head suspension.

3. The method of Claim 1 wherein the method is performed on a spin stand.

4. A method for dynamically measuring thermal drift of a head suspension in a hard disk drive, the method comprising the following steps:

writing a first data track;

measuring amplitude of a write data signal as the first data track is written;

5 writing a second data track;

measuring amplitude of a write data signal as the second data track is written; and

comparing the amplitude of the write data signal measured as the first data track is written to the amplitude of the write data signal measured as the second data track is written, a difference between the measured values of amplitude of the write data signals representing thermal drift of
10 the head suspension.

5. The method of Claim 4 wherein the difference between the measured values of the amplitude of the write data signals represents out-plane thermal drift of the head suspension.

6. A method for dynamically measuring thermal drift of a head suspension in a hard disk drive, the method comprising the following steps:

writing a first data track;

determining a track center of the first data track;

5 measuring amplitude and amplitude modulation of the write data signal as the first data track is written;

writing data tracks for a selected time period;

determining a track center of a last data track written during the selected time period;

10 measuring amplitude and amplitude modulation of the write data signal as the last data track is written;

comparing the track center of the first data track to the track center of the last data track, a difference between the track center of the first data track and the track center of the last data track representing in-plane thermal drift of the head suspension; and

15 comparing the amplitude and amplitude modulation of the write data signal measured as the first data track is written to the amplitude and amplitude modulation of the write data signal measured as the last data track is written, a difference between the measured values of the amplitude and amplitude modulation of the write data signals representing thermal drift of the head suspension.

7. The method of Claim 6 wherein the difference between the measured values of the amplitude and amplitude modulation of the write data signals is proportional to the out-plane thermal drift of the head suspension.